Monitor and Control System Operations

Tank Farm Plant Operating Procedure Effluent Treatment Facility

USQ Not Required – ETF is a < Hazard Category 3 Radiological Facility

Change History (≤ Last 5 Rev-Mods)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-2</td>
<td>01/30/2018</td>
<td>Process clarification</td>
<td>Removed reference to trackball and mouse throughout procedure. Updated attachment 1 to sheet 1 of x. Added note to above step 5.14.2. Removed model no’s or connectivity references from printers throughout document. Updated table 5.1.1.</td>
</tr>
<tr>
<td>A-1</td>
<td>04/28/2016</td>
<td>First Time Use</td>
<td>Clarify steps in Attachment 1 – Server Shutdown and Startup; update records section per standard.</td>
</tr>
<tr>
<td>A-0</td>
<td>10/14/2015</td>
<td>Converting to WRPS Format</td>
<td>New Procedure; Supersedes ETF-PRO-OP-51516 (POP-55-001)</td>
</tr>
</tbody>
</table>

Table of Contents

Section Page

1.0 PURPOSE AND SCOPE .......................................................... 3
  1.1 Purpose .............................................................................. 3
  1.2 Scope .............................................................................. 3

2.0 INFORMATION ........................................................................ 3
  2.1 Terms and Definitions ......................................................... 3
  2.2 General Information .......................................................... 3

3.0 PRECAUTIONS AND LIMITATIONS ........................................... 4
  3.1 Equipment Safety ............................................................. 4
  3.2 Radiation and Contamination Control ................................. 4
  3.3 Environmental Compliance ............................................... 4

4.0 PREREQUISITES ................................................................. 4
  4.1 Performance Documents ................................................... 4
  4.2 Field Preparations ............................................................ 4

5.0 PROCEDURE ....................................................................... 5
  5.1 OCS Boot Up/Startup ....................................................... 5
  5.2 Verify System Readiness for Startup .................................. 6
  5.3 Change Logon ................................................................... 7
  5.4 Perform Initial Alarm Response ......................................... 7
  5.5 Call Up and Use Graphics ................................................ 8
  5.6 Call Up and Use Group Displays ....................................... 14
  5.7 Call Up and Use Alarm Summary ...................................... 17
  5.8 Display Trend/History Displays ......................................... 18
5.9 OCS Computer Shutdown/Restart .............................................................................. 19
5.10 Use of Local Operator Panel (LOP) at LCU ................................................................. 21
5.11 Check Network Operation on OCS ............................................................................. 22
5.12 Complete MCS Shutdown ......................................................................................... 23
5.13 Start of the MCS After Shutdown .............................................................................. 24
5.14 Suppress and Unsuppress Alarms ............................................................................. 25
5.15 Records ...................................................................................................................... 27

Table 1 – PLC Chassis Power Supply Switch Position for Shutdown .................................. 28

Table 2 – PLC Chassis Power Supply Switch Position for Startup .................................... 29

Figure 1 ............................................................................................................................... 30

Attachment 1 – Server Shutdown and Startup .............................................................. 31
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for normal operation of MCS and limited abnormal operations of the ETF and 200 Area TEDF.

1.2 Scope

This procedure involves MCS operations at ETF and TEDF. Activities include:
- Reboot of operator workstations in the event of computer glitches
- Shutdown of all operator workstations in the event of a loss of power
- Complete MCS shutdown
- Start the MCS.

2.0 INFORMATION

2.1 Terms and Definitions
- CV - Controller Output
- LCU – Local Control Unit
- OCS – Operator Console Station
- PID - Proportional, Integral, Derivative
- SP – Setpoint.

2.2 General Information

2.2.1 This procedure is effective during monitoring and control of any system under MCS control in accordance with ETF operating procedures.

2.2.2 Instructions are provided for individual tasks to be performed on MCS at operator's discretion. Some instructions involve maintenance activities and may require maintenance personnel.

2.2.3 Manipulation of process equipment must be done in conjunction with the appropriate operating procedures.

2.2.4 Additional server shutdown and startup information is available in the ETF Control Room.

2.2.5 Throughout this procedure the terms “SUPPRESS” and “UNSUPPRESS” are used and are synonymous with “INHIBIT” and “RETURN” respectively.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Equipment Safety

CAUTION - Equipment required to be in AUTO will shut down in an unsafe manner if placed in MANUAL.

3.2 Radiation and Contamination Control

3.2.1 Work in radiological areas will be performed using a radiological work permit following review by Radiological Control per ALARA Work Planning procedure, TFC-ESHQ-RP_RWP-C-03.

3.3 Environmental Compliance

3.3.1 In the event of a spill/leak/release, notify the SOM/FWS and respond per ETF-ERP-85B-003, Emergency Spill or Release at ETF.

4.0 PREREQUISITES

4.1 Performance Documents

The following documents may be needed to perform this procedure:

- ETF-25B-001, Electrical Distribution System Startup and Operation.

4.2 Field Preparations

4.2.1 CONFIRM LCUs have been energized.
5.0 PROCEDURE

Special Instructions

Activities within this procedure that are associated with maintenance activities or that involve powering on/off control equipment should be performed jointly by Operations and Maintenance personnel.

Sections may be performed in any logical order.

5.1 OCS Boot Up/Startup

NOTE - Windows software and operator screens require approximately three minutes to boot up to the ROCKWELL FACTORY TALK VIEW operator screen.

- When system starts, ALARM window will appear at bottom of screen with the five most recent alarms.
- When station boots up, it will automatically be logged in as “operator.”
- Redundant/Backup Printers are located in Room 203, but will require the DA and Instrument Technicians to re-configure before deployment to production.

5.1.1 ENSURE ON/OFF switch or button is ON for:

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>SWITCH LOCATION</th>
<th>POWER INDICATOR, LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCS Surge Suppressor</td>
<td>On Surge Suppressor</td>
<td>Red Light</td>
</tr>
<tr>
<td>OCS Computer</td>
<td>Front Middle</td>
<td>Green, Front Middle</td>
</tr>
<tr>
<td>OCS Monitor</td>
<td>Front Lower Right</td>
<td>Green, Front Lower Right</td>
</tr>
<tr>
<td>Black/White Printer</td>
<td>Front Face Middle Right</td>
<td>Green, Top Right</td>
</tr>
<tr>
<td>Color Printer</td>
<td>Front Face Middle Right</td>
<td>Green, Top Right</td>
</tr>
</tbody>
</table>

NOTE - Operators log on to control room computers only. View-Only and SOM computers auto boot using a View-Only license. LCU HMI screens auto-boot to secured accounts.

5.1.2 LOG ON to each HMI computer in the control room as follows:

5.1.2.1 PRESS “Ctrl + Alt + Del” simultaneously.

5.1.2.2 ENTER operator user name and password.
5.2 Verify System Readiness for Startup

5.2.1 ENSURE ETF process systems live data can be viewed on a control room HMI computer.

5.2.2 CONFIRM indications on the following network graphics are all green (or gray for not used) AND

NOTIFY Maintenance of any indications that are red.
- “NETWORK PG. 1” graphic (accessed from GRAPHICS/MCS menu)
- “NETWORK PG. 2” graphic (accessed from GRAPHICS/MCS menu)
- “ETF LCU POWER STATUS” (accessed from GRAPHICS/MCS menu)

NOTE - One console for each process area (ETF and TEDF) needs to be running so the annunciator horn for each of those areas will be operable.

5.2.3 ENSURE one ETF and one TEDF console are booted up.

NOTE - Alarm horns on operator consoles are not synchronized. Only one speaker for ETF consoles and one speaker for TEDF consoles should be turned on. If more than one speaker for each area is turned on, the horns will annunciate out of phase.

5.2.4 ENSURE only one ETF console speaker is turned on and only one TEDF console speaker is turned on.

5.2.5 ENSURE HP color and black/white printers are ON and have paper.

5.2.6 CHECK “SERVER STATUS” (accessed from GRAPHICS/MCS menu) appears as shown below:

![Server Status Popup](image-url)
5.3 Change Logon

5.3.1 SELECT “Change Logon” button at top of screen (orange area).

5.3.2 ENTER user identification and password.

5.4 Perform Initial Alarm Response

NOTE - The “Recent Alarm” window is located at the bottom of the control room screens and displays the five most recent alarms.

- If alarm condition clears prior to acknowledgment of alarm, alarm message will erase upon alarm acknowledgment.

5.4.1 ACKNOWLEDGE alarms in Recent Alarms Window as follows:

5.4.1.1 READ alarm message.

5.4.1.2 SELECT “Ack Page” or “Ack Current”.

5.4.2 SILENCE AND ACKNOWLEDGE Alarms from “Alarm Summary” graphic as follows:

NOTE - The Alarm Summary display lists all current alarms.

- When “Alarm Summary” is selected, a “Window Selection” window will pop up to allow selection of the position in which the new window will be displayed.

5.4.2.1 SELECT “Alarm Summary” graphic.

5.4.2.2 SELECT display option (open left, center, or right).

5.4.2.3 SELECT “Silence All.”

5.4.2.4 SELECT “Ack Current, Ack Page, or Ack All.”

5.4.3 DETERMINE cause of alarm.

5.4.3.1 CHECK data to determine if any equipment actions immediately prior to the alarm are not consistent with current operation or the system in question.

5.4.3.2 PERFORM applicable ARP.

5.4.4 GO TO Section 5.5.
### ETF Display Colors

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COLOR/OTHER</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter in Selection Box (i.e., to select pump A or Pump B)</td>
<td>Red</td>
<td>Selected</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>Not Selected</td>
</tr>
<tr>
<td>Word in Operational Mode Box (i.e., READY, OPERATION, OR PURGE modes)</td>
<td>White</td>
<td>Not in That Mode</td>
</tr>
<tr>
<td></td>
<td>Yellow/Blinking</td>
<td>In the Process of Achieving That Mode</td>
</tr>
<tr>
<td></td>
<td>Yellow/Steady</td>
<td>In That Mode</td>
</tr>
<tr>
<td>Words in Valve or Pump Body: A/AUTO; M/MANUAL</td>
<td>White</td>
<td>Not in That Condition</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>In That Condition</td>
</tr>
<tr>
<td>Words in Valve or Pump Body: OFF/ON; O/OPEN/, C/CLOSED</td>
<td>White</td>
<td>Hand Switch Not Active</td>
</tr>
<tr>
<td></td>
<td>Red Momentarily When Activated</td>
<td>Momentary Hand Switch Activated</td>
</tr>
<tr>
<td>Outline of Pump, Valve, Fan, and Pipe</td>
<td>Grey</td>
<td>Not Active or Having Established Flow</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>Active or Having Established Flow</td>
</tr>
<tr>
<td>Alarms</td>
<td>White background, black text</td>
<td>Unacknowledged active white alarm (Advisory)</td>
</tr>
<tr>
<td></td>
<td>White background, purple text</td>
<td>Acknowledged active white alarm (Advisory)</td>
</tr>
<tr>
<td></td>
<td>White background, blue text</td>
<td>Unacknowledged inactive white alarm</td>
</tr>
<tr>
<td></td>
<td>Yellow background, black text</td>
<td>Unacknowledged active yellow alarm (Caution)</td>
</tr>
<tr>
<td></td>
<td>Yellow background, purple text</td>
<td>Acknowledged active yellow alarm (Caution)</td>
</tr>
<tr>
<td></td>
<td>Yellow background, blue text</td>
<td>Unacknowledged inactive yellow alarm</td>
</tr>
<tr>
<td></td>
<td>Red background, black text</td>
<td>Unacknowledged active red alarm (Danger)</td>
</tr>
<tr>
<td></td>
<td>Red background, purple text</td>
<td>Acknowledged active red alarm (Danger)</td>
</tr>
<tr>
<td></td>
<td>Red background, blue text</td>
<td>Unacknowledged inactive red alarm</td>
</tr>
</tbody>
</table>

### Special Instructions
The MCS uses a color coding system to allow the operator to quickly identify the status of a particular piece of equipment or a specific process.
## 5.5 Call Up and Use Graphics (Cont.)

### ETF Display Colors

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COLOR/OTHER</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green background, black text</td>
<td>Unacknowledged active green status (Event)</td>
<td></td>
</tr>
<tr>
<td>Green background, purple text</td>
<td>Acknowledged active green status (Event)</td>
<td></td>
</tr>
<tr>
<td>Green background, blue text</td>
<td>Unacknowledged inactive green status</td>
<td></td>
</tr>
</tbody>
</table>

### TEDF Display Colors

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COLOR/OTHER</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/AUTO; M/MANUAL</td>
<td>White</td>
<td>Not in That Condition</td>
</tr>
<tr>
<td></td>
<td>Green (In Graphic Body) White and Visible (In Free Space)</td>
<td>In That Condition</td>
</tr>
<tr>
<td>Alarms</td>
<td>White background, black text</td>
<td>Unacknowledged active white alarm (Advisory)</td>
</tr>
<tr>
<td></td>
<td>White background, purple text</td>
<td>Acknowledged active white alarm (Advisory)</td>
</tr>
<tr>
<td></td>
<td>White background, blue text</td>
<td>Unacknowledged inactive white alarm</td>
</tr>
<tr>
<td></td>
<td>Yellow background, black text</td>
<td>Unacknowledged active yellow alarm (Caution)</td>
</tr>
<tr>
<td></td>
<td>Yellow background, purple text</td>
<td>Acknowledged active yellow alarm (Caution)</td>
</tr>
<tr>
<td></td>
<td>Yellow background, blue text</td>
<td>Unacknowledged inactive yellow alarm</td>
</tr>
<tr>
<td></td>
<td>Red background, black text</td>
<td>Unacknowledged active red alarm (Danger)</td>
</tr>
<tr>
<td></td>
<td>Red background, purple text</td>
<td>Acknowledged active red alarm (Danger)</td>
</tr>
<tr>
<td></td>
<td>Red background, blue text</td>
<td>Unacknowledged inactive red alarm</td>
</tr>
<tr>
<td></td>
<td>Green background, black text</td>
<td>Unacknowledged active green status (Event)</td>
</tr>
<tr>
<td></td>
<td>Green background, purple text</td>
<td>Acknowledged active green status (Event)</td>
</tr>
<tr>
<td></td>
<td>Green background, blue text</td>
<td>Unacknowledged inactive green status</td>
</tr>
</tbody>
</table>

### Special Instructions

The MCS uses a color coding system to allow the operator to quickly identify the status of a particular piece of equipment or a specific process.
5.5 Call Up and Use Graphics (Cont.)

5.5.1 SELECT “Graphics” from menu bar.

5.5.2 SELECT desired system (e.g., MTT) from menu list.

5.5.3 SELECT desired graphic (e.g., Surge) from menu list.

5.5.4 SELECT desired location (Open Left, Center or Right) to place graphic.

5.5.5 SELECT alternate method to display a graphic as follows:

5.5.5.1 SELECT desired graphic “Hot Button” to call up graphic using embedded teal-colored graphic "Hot Button" as follows:

5.5.5.2 SELECT desired location (Open Left, Center or Right) to place graphic.

5.5.6 WHEN desired graphic is displayed, SELECT desired equipment.
5.5 Call Up and Use Graphics (Cont.)

NOTE -  Step 5.5.7 provides a way of zooming in to enlarge a view. The ZOOM button in the upper right corner of a graphic is used for this purpose.

- After the ZOOM button is pressed, the “Magnifier Settings” and “Magnifier” pop-up windows can be placed anywhere on the screen.

- The “Magnifier” pop-ups are not linked to the graphic used to call it up, meaning the magnifier can be used on any display (graphic, trend, group, etc.) on the screen.

- The “Magnifier Settings” pop-up can be used to adjust the magnifier settings.

- The “Magnifier” pop-up can be sized as desired by dragging edges and corners.

5.5.7 IF it is necessary to zoom into graphic objects, PERFORM the following:

5.5.7.1 SELECT graphic ZOOM button.

5.5.7.2 ADJUST Magnifier Settings (e.g., magnification level) as desired.

5.5.7.3 ADJUST "Magnifier" window size as desired by grabbing and dragging edges and/or corners of the window.

5.5.7.4 POSITION "Magnifier Settings" and "Magnifier" windows to desired location on screen by grabbing and dragging top blue bar of each window to be positioned.
5.5 Call Up and Use Graphics (Cont.)

NOTE - Selecting on pump or valve displays a pop-up in lower left corner of screen.

- Inside this pop-up, the hand switch selectors are the title-case words (Start, Stop, Open, Close, On, Off, Auto, Manual), not the upper-case words or letters (START, STOP, OPEN, CLOSE, ON, OFF, AUTO, MANUAL, M, A, O, C).

- When a desired action takes place, the letters or word representing the desired action (START, STOP, OPEN, CLOSE, ON, OFF, AUTO, MANUAL) will momentarily change color.

CAUTION

Equipment required to be in AUTO will shut down in an unsafe manner if placed in MANUAL.

5.5.8 PLACE equipment into “Auto” or “Manual” mode as follows:

5.5.8.1 SELECT equipment desired to be in AUTO or MANUAL mode.

5.5.8.2 SELECT the word “Auto” or “Manual”.

5.5.8.3 SELECT “Enter”.

5.5.8.4 GRAPHICALLY CONFIRM desired action has taken place.

5.5.8.5 SELECT “Exit” button in the pop-up dialog box for the equipment.
Monitor and Control System Operations

5.5 Call Up and Use Graphics (Cont.)

5.5.9 SELECT “Start” or “Stop,” “On” or “Off,” or “Open” or “Close” as follows:

5.5.9.1 SELECT equipment desired to change state.

5.5.9.2 SELECT desired state (“Start” or “Stop,” “On” or “Off,” or “Open” or “Closed”).

5.5.9.3 SELECT “Enter”.

5.5.9.4 GRAPHICALLY CONFIRM desired action has taken place.

5.5.10 SELECT operational modes for ETF as follows:

5.5.10.1 SELECT desired operational mode that appears at top or bottom of graphic (e.g., READY, OPERATION, PURGE, DAILY FLUSH, etc.).

5.5.10.2 Within dialogue box that appears in lower left of the screen, SELECT desired command (e.g., READY).

5.5.10.3 SELECT “Enter”.


5.6 Call Up and Use Group Displays

NOTE - Either of the two methods below can be used to navigate to and select a desired group.
- On the GROUP SELECTORS LIST graphic, the top UP arrow and bottom DOWN arrow are used to navigate or scroll through the list of groups. Selecting the middle LEFT arrow enters the group to be displayed.
- Navigation through the list of groups can also be done using the keyboard Page Up, Page Down, Home, End, and arrow keys. Then the desired group can be selected with the keyboard Enter key.

GROUP displays are used to view or modify specific tag values. Group displays show up to:
- 4 PID control loops (e.g., LIC60I107 or LCV107)
- 8 analog inputs (e.g., AIT, FT, LT, PT, TT)
- 7 discrete inputs (e.g., HS80C400E)

When GROUPS button is selected below, a Window Selection window will pop up to allow selection of the position in which the new window will be displayed (OPEN LEFT or OPEN RIGHT).

5.6.1 SELECT “GROUPS” from the menu bar as follows:

5.6.1.1 SELECT “OPEN LEFT” or “OPEN RIGHT” button.

5.6.1.2 SELECT desired group pane (ETF GROUPS PANE or TEDF GROUPS PANE) from list.

5.6.1.3 SELECT desired group display using one of the methods of navigating and selecting described in note above.

NOTE - The actions in steps 5.6.2 through 5.6.7 may be performed separately within a group display.

5.6.2 SELECT desired group display panel item (Discrete point status, or Analog point value) to bring up dialog box in lower left corner of the screen.

5.6.3 SELECT “Exit” to cancel dialog box.
5.6 Call Up and Use Group Displays (Cont.)

NOTE - PID controller (e.g., LIC60I107) Auto/Manual mode changes do not require an entry confirmation. Selecting AUTO or MANUAL will make the mode change.

5.6.4 SET device to MANUAL or AUTO within PID control panel.

5.6.5 ADJUST SETPOINT (SP) for AUTO operation within PID control panel as follows:

5.6.5.1 PLACE cursor inside SP box,

OR

DOUBLE-CLICK on value in SP box.

5.6.5.2 DELETE value inside SP box.

5.6.5.3 TYPE in desired SP value.

5.6.5.4 PRESS “Enter” on keyboard.

5.6.5.5 CLICK cursor anywhere outside group screen AND CONFIRM desired SP was entered.

5.6.5.6 IF desired SP was not entered, PLACE cursor on controller SP slide bar.

5.6.5.7 HOLD DOWN left mouse button.

5.6.5.8 DRAG cursor up or down as required to change SP.

5.6.5.9 RELEASE left mouse button.

5.6.5.10 CHECK that correct SP value is displayed.
5.6 Call Up and Use Group Displays (Cont.)

5.6.6 ADJUST CONTROLLER OUTPUT (CV) for MANUAL operation within PID control panel as follows:

5.6.6.1 PLACE cursor inside CV box, 

OR

DOUBLE-CLICK on value in CV box.

5.6.6.2 DELETE value inside CV box.

5.6.6.3 TYPE in desired CV value.

5.6.6.4 PRESS “Enter” on keyboard.

5.6.6.5 CLICK cursor anywhere outside group screen AND CONFIRM desired output was entered,

OR

PLACE cursor on controller output slide bar.

5.6.6.6 HOLD DOWN left mouse button.

5.6.6.7 DRAG cursor right or left as required to change controller output.

5.6.6.8 RELEASE left button.

5.6.6.9 CHECK correct controller output is displayed.

5.6.7 TOGGLE modifiable discrete tags within dialog box in lower left corner of screen as follows:

5.6.7.1 SELECT desired action or state in dialog box.

5.6.7.2 SELECT “Enter”.

5.6.7.3 SELECT “Exit” in dialog box to remove dialog box from screen.
5.7 Call Up and Use Alarm Summary

NOTE - Alarms in the Alarm Summary can be filtered based on alarm severity (severity 1 = red, 2 = yellow, 3 = white). The fourth non-alarm severity is level 4 (Event). Severities 5 through 8 are not used in the MCS. Unchecking the severity box removes those alarms from the Alarm Summary.

- Alarms in the Alarm Summary can be sorted based on chronological, tag name, or severity (different area names are not used in the MCS, so sorting on area name is not effective).

- The default Alarm Summary “Filter” setting displays red, yellow, and white alarms only (severities 1, 2, and 3). The default “Sort” setting is chronological.

- Exiting the Alarm Summary cancels any custom filtering or sorting that was set up different from the defaults above. The next time the Alarm Summary is displayed, the defaults are automatically used.

5.7.1 SELECT “Alarm Summary” from menu bar.

5.7.2 SELECT desired location (Open Left, Center, or Right) to place display.

5.7.3 ACKNOWLEDGE alarms by one of the following three steps:

5.7.3.1 SELECT desired alarm to acknowledge, SELECT “Ack Current” to acknowledge selected alarm.

OR

5.7.3.2 SELECT “Ack Page” to acknowledge alarms that can be seen on one page of Alarm Summary display.

OR

5.7.3.3 SELECT “Ack All” to acknowledge all alarms in Alarm Summary display.
5.8 Display Trend/History Displays

5.8.1 SELECT “Trends”.

5.8.2 SELECT “REAL-TIME,” “HISTORY,” or “LOOPHIST” for quarter or half size screens.

5.8.3 SELECT “Position” to display trend. (Quarter-size “Position” options: Top Left, Top Right, Bottom Left, or Bottom Right. Half-size "Position" options: Left or Right.)

NOTE - Either option in step 5.8.4 can be used to scroll to and select a desired trend.

5.8.4 For selected trend “Position” button, USE UP arrow and DOWN arrow to scroll through list of trends, SELECT middle LEFT arrow to enter trend to be displayed.

OR

USE keyboard Page Up, Page Down, Home, End, and arrow keys to SCROLL through list of trends, PRESS keyboard enter key to select desired trend.
5.9 OCS Computer Shutdown/Restart

NOTE - The following is for shutdown of an OCS computer if it locks up or fails to operate correctly. It is important to attempt an orderly shutdown and restart of the computer.

- Selecting the graphic “SHUTDOWN” button (located above the computer date/time in the orange area in the upper right corner of the OCS screen) does not require a confirm selection to shut down the computer. Clicking on the graphic “SHUTDOWN” button once will shut down the computer and turn it off.

- When the OCS computer turns off, the computer start button (located at the front center of the computer will not be lit up green (green start button means computer is on).

5.9.1 SHUTDOWN AND RESTART OCS console as follows:

5.9.1.1 OBTAIN CRO concurrence.

5.9.1.2 SELECT “SHUTDOWN” in upper right corner of operator screen.

5.9.1.3 IF OCS does not respond, CONTACT instrument technician.

NOTE - When powered up, an OCS computer will automatically log on with the operator account and start up an operator graphic screen. It takes about three minutes for the Windows desktop to come up and display the operator graphic screen (five minutes for LCU local operator panels). During this time, NO Windows desktop items are to be selected.

5.9.1.4 IF rebooting OCS computer is required, WAIT until computer is OFF.

5.9.1.5 WAIT ten seconds before proceeding AND

PRESS OCS start button
(located at front-center of OCS computer).

NOTE - More than one OCS computer may need to be shut down (e.g., for maintenance activity, work package, or per SOM direction).

5.9.2 IF OCS computer shutdown is required, REPEAT step 5.9.1 for other OCS computers as required.
5.9 OCS Computer Shutdown/Restart (Cont.)

NOTE - When the ETF loses normal power and there is still power to control room computers, there is about two hours of backup power provided by the 30KVA UPS in the Electrical Equipment Room 126.

- The 30KVA UPS provides power to the two server cabinets that also have their own internal UPS. About five minutes after the battery power supplied by the 30KVA UPS runs out, each server cabinet UPS will automatically shut down the servers they supply power to.

- If the ETF loses normal power and there is still power to control room computers, the ETF processes are placed in safe condition prior to shutting down the control room OCS computers.

Special Instructions

Activities within this procedure that are associated with maintenance activities or that involve powering on/off control equipment should be performed jointly with Operations and Maintenance personnel. However, Operations personnel may perform a shutdown of the consoles if Maintenance personnel are unavailable. Maintenance should be contacted for follow-up as soon as practical.

5.9.3 IF ETF loses normal power AND there is still power to control room computers AND normal power is expected to be out longer than 30KVA UPS batteries can supply (about two hours from time when normal power was lost), PERFORM steps 5.9.3.1 through 5.9.3.3.

5.9.3.1 PLACE ETF plant systems in safe condition.

5.9.3.2 SHUT DOWN individual OCS computers per step 5.9.1.

5.9.3.3 TURN OFF power to control room computer monitors and printers.
5.10 Use of Local Operator Panel (LOP) at LCU

NOTE - Before turning off power to the LCU cabinet (e.g., for planned maintenance, SOM direction), the LOP needs to be shut down so that it starts up properly the next time it is needed.

- LOP display panels at LCUs are touch-sensitive screens. A firm touch with a finger or other blunt object is required to operate the system.

- LOP graphic displays are similar in look and operation as graphics on the ETF Control Room OCS computers.

- The “SHUTDOWN” button on a graphic screen of the LOP display is located in the upper right corner of a graphic display. Pressing this shutdown button closes the display window and turns off the LOP computer.

5.10.1 IF LOP shutdown is required, PERFORM the following:

5.10.1.1 PRESS “SHUTDOWN” button on graphic screen of LOP display.

5.10.1.2 CONFIRM LOP computer turns OFF.

5.10.1.3 IF LOP does not turn OFF, CONTACT Maintenance to assist.

NOTE - When the LOP at an LCU is turned on, it automatically boots up to the operator logon account. Username and password entry is not required.

- Power-up of the LOP at an LCU takes about five minutes or longer for the operator displays (base screen with navigation buttons and alarm summary panel) to finish starting up.

- After the LOP has finished booting up to the operator display screen, the display will go into screen saver mode after fifteen minutes of inactivity. Touching the screen aborts the screen saver and returns to the graphic display screen.

5.10.2 IF power-up of an LOP is required (screen display is blank), PERFORM the following:

5.10.2.1 TURN ON power switch the bottom of LOP unit (inside cabinet door).

5.10.2.2 WAIT for operator screen display to come up.

5.10.2.3 IF LOP does not start up, CONTACT Maintenance to assist.
5.11 Check Network Operation on OCS

NOTE - Network/Power and Server Status graphics are located in the GRAPHICS/MCS menu.

- NETWORK/POWER graphic indicators should be green on operating equipment.
- Any red indicators on NETWORK/POWER graphics indicate failure.
- Any gray indicators on NETWORK/POWER graphics can be ignored (not used).

5.11.1 CHECK “NETWORK PG. 1” graphic for RED indicators.

5.11.2 CHECK “NETWORK PG. 2” graphic for RED indicators.

5.11.3 CHECK “ETF LCU POWER STATUS” graphic for RED indicators.

5.11.4 IF any OCS Network/Power graphic shows red indications, CONTACT Maintenance to assist.

5.11.5 CHECK “SERVER STATUS” graphic appears as shown below:

![Server Status Popup](image-url)
5.12 Complete MCS Shutdown

5.12.1 CONFIRM all plant process systems and utilities are shut down per applicable procedures.

5.12.2 AFTER plant systems are shut down, PERFORM the following:

5.12.2.1 SHUT DOWN individual OCS consoles per step 5.9.1.

5.12.2.2 TURN OFF power to computer monitors and printers.

5.12.3 PERFORM MCS server shutdown per Attachment 1.

5.12.4 AFTER all OCS and associated equipment are shut down and turned off, OPEN the following circuit breakers:

<table>
<thead>
<tr>
<th>DISTRIBUTION PANEL</th>
<th>BREAKER</th>
<th>AFFEC TED EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP-3</td>
<td>1</td>
<td>JB-95C001</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>IDP-1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>IDP-2</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>IDP-3</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>IDP-4 (LCU-E)</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>IDP-5</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>LCP-80C001 (LCU-D)</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>LCU-4</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>LCU-1</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>LCU-5</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>LCU-2A &amp; 2B</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>LCU-6</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>LCU-3</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>IDP-6</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>MCS-1</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>MCS-2</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>JB60D003, UV-OX PWR, LCU-7/8</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>MCS-3</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>LCU-H</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>CREWS (Engineering Workstation)</td>
</tr>
<tr>
<td>DP-4</td>
<td>2</td>
<td>Comm Rm 207 (HLAN Cabinet)</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Server Cabinet “A”</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Server Cabinet “B”</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>MCS-4</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>MCS-5</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>MCS-6</td>
</tr>
</tbody>
</table>
5.12 Complete MCS Shutdown (Cont.)

NOTE - All PLC I/O Chassis #3, #4, and #5 power supplies are left ON to make for a smoother startup later on.

- All PLC cards in LCU-D (Drum handling) are in the same Chassis, so LCU-D Chassis #1 power supply switch does not need to be turned off.

5.12.5 TURN OFF each PLC Chassis power supply switch per Table 1, leaving the I/O Chassis power supply switches on.

5.13 Start of the MCS After Shutdown

NOTE - Steps 5.13.1 through 5.13.3 are for UPS, MCS, and communications systems.

Special Instructions

Steps 5.13.1 through 5.13.3 should be performed jointly with Operations and Maintenance personnel.

5.13.1 ENSURE Electrical Distribution System has been started up through UPS startup per ETF-25B-001.

5.13.2 ENSURE DP-3 breaker alignment per ETF-25B-001.

5.13.3 ENSURE DP-4 breaker alignment per ETF-25B-001.

5.13.4 TURN ON each PLC Chassis power supply per Table 2, START with Chassis #1 in each LCU cabinet AND ALLOW sufficient time for Chassis #1 cards to boot before turning on power to Chassis #2.

5.13.5 RESTART servers per Attachment 1.

5.13.6 RESTART all control room OCS computers per Section 5.1.

5.13.7 PERFORM Section 5.2 to confirm readiness for startup.
5.14 Suppress and Unsuppress Alarms

NOTE - A current list of suppressed alarms cannot be exposed to persons with low security rights. Only the MCS DA or a backup can remove the suppression of alarms.

- Before an alarm can be suppressed, one of the following conditions must be met:
  - The alarm continually activates in a short period (i.e., ten times in a fifteen-minute duration) with no cause determined, and/or the alarm determined to be false by the investigating team.

  OR

  - A scheduled maintenance activity will cause an alarm to repeatedly activate/reset over a short period of time; and potentially distract CRO from primary duties.

  OR

  - The system associated with the alarm is out of service, yet the out-of-service condition causes a repeated alarm condition.

  OR

  - As directed by the SOM.

5.14.1 RECORD condition into ETF Control Room Logbook with actions taken to determine alarm is considered for suppression.

5.14.2 IF suppressing an alarm, PROCEED to step 5.14.4.

NOTE - Suppressed alarms may be returned to normal once the condition requiring their suppression is verified as terminated. This may include:

  - Correction of an abnormal condition revealed by further investigation
  - Conclusion of schedule maintenance work
  - Return of system associated with alarms to normal status.

5.14.3 IF unsuppressing an alarm, PERFORM the following:

5.14.3.1 REQUEST MCS DA re-activate alarm tag.

5.14.3.2 REMOVE alarm tag name from Shift Manager Turnover Status Sheet.

5.14.3.3 RECORD in ETF Control Room Logbook alarm placed back into service.
5.14  Suppress and Unsuppress Alarms (Cont.)

NOTE - The following steps are performed at the Engineering Station in the control room using the ETF monitor.

- The ETF SOM account will expose a blue “ALARM SUPPRESS” button next to the “ALARM SUMMARY” button, and the account name will be displayed below the “CHANGE LOGON” button.

5.14.4  RECORD alarm tag name in the Shift Manager Turnover Status Sheet AND NOTIFY software DA.

5.14.5  PRESS “CHANGE LOGON” button located in orange area of menu bar.

5.14.6  ENTER the following user name and its password (case sensitive):
  - User name: etfsom.

NOTE - Pressing the blue “ALARM SUPPRESS” button will bring up an ALARM SUMMARY display that has an “EXECUTE” button exposed.

- The “EXECUTE” button performs the action of suppressing an alarm. The order of performing the following steps is important. The tag to be suppressed must be selected first and then the “EXECUTE” can be pressed. If done in the opposite order, the wrong tag will be suppressed, and the user will not be able to unsuppress it without assistance from the MCS DA.

5.14.7  PRESS the blue “ALARM SUPPRESS” button.

NOTE - Selecting the alarm to be suppressed from the alarms listed in the Alarm Summary will change the background color of the alarm (e.g., to dark blue).

5.14.8  SELECT alarm to be suppressed from alarms listed.

5.14.9  PRESS “EXECUTE” button at bottom of alarm summary.

5.14.10  CLOSE alarm summary display that has “EXECUTE” button at bottom.
5.14  Suppress and Unsuppress Alarms (Cont.)

5.14.11  LOG OUT of ETF SOM account as follows:

5.14.11.1  PRESS “CHANGE LOGON” button located in orange area of menu bar.

5.14.11.2  ENTER the following user name and its password (case sensitive):

   •  User name: operator.

5.14.11.3  CONFIRM both of the following commands appear on the screen:

   •  Blue “ALARM SUPPRESS” button disappears
   •  OPERATOR user name is displayed below “CHANGE LOGON” button.

5.15  Records

The performance of this procedure generates no records.

The record custodian identified in the company-level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
Table 1 – PLC Chassis Power Supply Switch Position for Shutdown

<table>
<thead>
<tr>
<th>LCU CABINET</th>
<th>CHASSIS NAME (TYPE)</th>
<th>24V POWER SUPPLY SWITCH POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td>2</td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>2B</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td>2A</td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #5 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>3</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td>4</td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>5</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>6</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>7</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>8</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>E</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #4 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>H</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #3 (I/O)</td>
<td>LEAVE ON</td>
</tr>
<tr>
<td>15</td>
<td>CHASSIS #1 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>OFF</td>
</tr>
<tr>
<td>D</td>
<td>CHASSIS #1 (PLC &amp; I/O)</td>
<td>ON</td>
</tr>
</tbody>
</table>
### Table 2 – PLC Chassis Power Supply Switch Position for Startup

<table>
<thead>
<tr>
<th>LCU CABINET</th>
<th>CHASSIS NAME (TYPE)</th>
<th>24V POWER SUPPLY SWITCH POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>2B</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>3</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>4</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>5</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>6</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>7</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>8</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>E</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>H</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td>15</td>
<td>CHASSIS #1 (PLC)</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>CHASSIS #2 (PLC)</td>
<td>ON</td>
</tr>
</tbody>
</table>
Figure 1

Note:
asterisk (*) = "A" for server cabinet A
   = "B" for server cabinet B
Attachment 1 – Server Shutdown and Startup

SHUTDOWN & STARTUP SEQUENCES

1. ORDER OF SHUTDOWN FOR SERVER CABINET “B” CLEANINGS (OR when doing one cabinet at a time)
   a. APPSERVER2B (wait until down before proceeding to next)
   b. APPSERVER1B (wait until down before proceeding to next)
   c. DOMAINSERB

2. ORDER OF STARTUP AFTER SERVER CABINET “B” CLEANINGS (OR when doing one cabinet at a time)
   a. DOMAINSERB (wait until running before proceeding to next)
   b. APPSERVER1B (wait until running before proceeding to next)
   c. APPSERVER2B

3. ORDER OF SHUTDOWN FOR SERVER CABINET “A” CLEANINGS (OR when doing one cabinet at a time)
   a. APPSERVER2A (wait until down before proceeding to next)
   b. APPSERVER1A (wait until down before proceeding to next)
   c. DOMAINSERA

4. ORDER OF STARTUP AFTER SERVER CABINET “A” CLEANINGS (OR when doing one cabinet at a time)
   a. DOMAINSERA (wait until running before proceeding to next)
   b. APPSERVER1A (wait until running before proceeding to next)
   c. APPSERVER2A

5. ORDER OF SHUTDOWN FOR ALL SERVERS IN CABINETS “A” AND “B” (e.g., for outages)
   a. APPSERVER2B AND APPSERVER2A (can be done at the same time)
   b. APPSERVER1B (wait until down before proceeding to next)
   c. APPSERVER1A (wait until down before proceeding to next)
   d. DOMAINSERB (wait until down before proceeding to next)
   e. DOMAINSERA
   f. TURN OFF server UPSs in server cabinets A and B (see page 7 of Attachment 1 for pictures)

6. ORDER OF STARTUP OF ALL SERVERS IN CABINETS “A” AND “B” (e.g., after outages)
   a. TURN ON server UPSs in server cabinets A and B (see page 7 of Attachment 1 for pictures)
   b. DOMAINSERA (wait until running before proceeding to next)
   c. DOMAINSERB (wait until running before proceeding to next)
   d. APPSERVER1A (wait one minute after starting before proceeding to next)
   e. APPSERVER1B (wait until running before proceeding to next)
   f. APPSERVER2A AND APPSERVER2B (can be done at the same time)

(Continued on Next Page)
SHUTDOWN INSTRUCTIONS FOR ANY SERVER (Refer to Appropriate Shutdown Sequence)

1. Open ATEN display console by depressing tabs on each side of the console:

2. On the Belkin KVM, select the server to be shutdown (2A for APPLSERVER2A is selected below):

Reference for steps 1 and 2:

(Continued on Next Page)
3. To see something on the ATEN screen you will likely have to move your finger across the mouse pad (#3 below) or depress any key.

NOTE: Tapping the mouse pad (#3 above) works like a Left-Click, and the mouse pad is very touch sensitive. So, some mouse pad actions may require care.

4. IF you see the following service control manager warning on the screen, this is normal. Left-Click “OK” with the mouse pad button. Otherwise, proceed.

(Continued on Next Page)
Attachment 1 – Server Shutdown and Startup (Cont.)

5. Simultaneously press Ctrl-Alt-Delete on the keyboard (see step #3 picture).

6. In the next “Logon to Windows” window, Left-Click on “SHUTDOWN” with the mouse pad button.

(Continued on Next Page)
7. In the next “Shutdown Windows” window, select “SHUTDOWN” from the drop down for “What do you want the computer to do?” box.
8. Make sure the “Planned” check box is checked.
9. Then in the event tracker “Option” box, select “HARDWARE: MAINTENANCE (planned)”.
10. Then Left-Click “OK”.

(Continued on Next Page)
11. Verify the server shuts down shown by the indicator lights on the front of the server.

(Continued on Next Page)
SHUTDOWN SERVER CABINET UPS

1. AFTER all servers are shut down, PRESS the UPS “OFF” button for more than one second to shut down the UPS (audible sounds briefly):

STARTUP SERVER CABINET UPS (& Server Cabinet Network Switches)

1. AFTER 30KVA ETF main UPS is running, PRESS the server UPS “On, Alarm Silence, Bat Test” button for more than one second to start the UPS.
2. IF UPS is sounding an alarm after UPS is running, PRESS the UPS “On, Alarm Silence, Bat Test” button to silence the alarm (UPS LOW BATTERY, OVER TEMP and OVERLOAD cannot be silenced).
3. Verify UPS starts.
4. Verify that power to network switches (lights) is on in both server cabinets before starting servers.

(Continued on Next Page)
Attachment 1 – Server Shutdown and Startup (Cont.)

STARTUP INSTRUCTIONS FOR ANY SERVER (Refer to Figure 1)

NOTE: Both UPS units in server cabinets “A” and “B” need to be running before servers are started, because each UPS powers the network switches in its cabinet.

1. IF both server cabinets need to be started, startup both server UPSs per instructions on the previous page.
2. AFTER both server cabinet UPSs & network switches are running, refer to Appropriate Startup Sequence for the servers.
3. RELEASE clips on both sides of the ATEN monitor, slide out the monitor, and TILT UP the screen of the ATEN monitor.
4. PRESS the button on the KVM switch for the server to be started.
5. IF domain server gray front cover is installed, then remove the cover to expose on/off buttons:
   ○ Domain server gray front covers are removed by depressing small plastic tab on the left side of the cover and pulling the left side of cover outward (pivoting on right side of cover).

(Continued on Next Page)
6. Start the Domain server(s) first:

**DOMAIN SERVER START BUTTON:**

**APPLICATION SERVERS START BUTTONS:**

(Continued on Next Page)
7. WAIT until the ATEN monitor displays a “Welcome to Windows” window (can be up to 10 minutes) before starting the next server. You will likely also see a Service Control Manager warning, which is normal after startup of a server.